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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,707	03/07/2002	Jeffrey Vernon Merkey	05082.001	2533

7590

03/29/2004

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EXAMINER

PEIKARI, BEHZAD

ART UNIT

PAPER NUMBER

2186

DATE MAILED: 03/29/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

26

Office Action Summary

Application No.

10/092,707

Applicant(s)

MERKEY, JEFFREY VERNON

Examiner

B. James Peikari

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

EXAMINER'S AMENDMENT

Drawings

1. The drawings are objected to because:

(a) The view numbers are not in accordance with 37 CFR 1.84(u)(1). For example, "FIG 1A", "FIG 1B", "FIG 1C", and "FIG 1D" should replace "Fig. 1a", "Fig. 1b", "Fig. 1c" and "Fig. 1d", respectively.

Note: if applicants make such changes to the drawing, corresponding changes to the view numbers recited in the specification must be made.

(b) The empty boxes that appear in Figures 8, 9, 10 and 11 should be labeled.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract of the disclosure is objected to because the original abstract was a direct copy of the summary of the invention and was inappropriate under MPEP

608.01(b). The following abstract should replace the current abstract:

“A dual-axis RAID system includes a plurality of X-axis ordinal series of disks, configured to store parity data and a tape drive, and a Y-axis ordinal series of parity disks. The Y-axis series is smaller than the X-axis series, because the X-axis series contains an extra disk configured as a segment journal disk. The RAID system communicates with clients on a network a network via an SCI network interface.”

Correction is required. See MPEP § 608.01(b).

3. The disclosure is objected to because of the following informalities:

(a) In the title, “SYSTEM” should replace “SYSTEMS”.

(b) On page 1, “invention” should replace all occurrences of “inventions” (and the grammar adjusted accordingly, e.g., “invention relates” should replace “invention relates”).

(c) On page 4, “DEFINITIONS” should replace “DETAILED DESCRIPTION”.

(d) On page 8, “DETAILED DESCRIPTION” should be inserted between paragraphs 22 and 23.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Chao et al., U.S. 6,393,485, in view of applicant's admitted prior art.

The independent claims of the invention are quite broad. Claim 1, although 23 lines long would have been taught by *any* prior art system in which a RAID was connected through a scalable coherent interface to a network of computers arranged with a token ring topology. All computers in such a network would have been clients and all would have contained processors, as required by the claims. Furthermore, a token ring configuration is by its nature unidirectional, as required by the claims.

Chao et al. teach such a system in Figure 1. Note columns 2-3, which state teach that the distributed data processing system network may have a Token Ring topology (column 2, line 49) and the shared disk device 124 is preferably a RAID device. As for the interconnection between the RAID and the rest of the network, Chao et al. explicitly mentions SCSI bus, Fibre Channel, and IBM SSA. Chao et al. do not mention an SCI interface in this embodiment. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate an SCI interface between the RAID device and the rest of the token ring network, since (1) Chao et al. states, immediately after listing the plurality of interfaces that could be used, that "FIG. 1 is intended as an example, and not as an architectural limitation", (2) Chao et al. explicitly teaches the use of the SCI standard as known technology to be used in

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clustered computer systems in column 1, lines 40-45, and (3) because SCI links are unidirectional, they are well suited for Token Ring networks such as that of Chao et al. and prove very efficient in such implementations.

As for the particular protocols recited in claims 2 and 24, some of these were taught by Chao et al. In any case they were admitted as prior art by applicant on pages 4-8 of the specification. It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate an different protocols listed in as well known standards on pages 4-8 of the specification in the Chao et al. system, because Chao et al. clearly stated the flexibility to implement a variety of protocols as explained above and because each protocol offered different performance advantages depending on system requirements.

As for a single axis implementation, note Chao et al., Figure 2.

As for a plural axis implementations, note Chao et al., Figure 1.

As for the claimed mirroring, parity storage that can be recreated via an exclusive-OR operation, and data striping, these were standard requirements of the various RAID implementations.

As for using NUMA processors in the network, these were specifically noted by applicant as background art, along with the advantages of using them. Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of NUMA processors in the Chao et al. system, since they were particularly well suited for mulitprocessor networks such as that of Chao et al. and prove very efficient in such implementations.

Allowable Subject Matter

6. If applicant amends the language of claims 22 and 23 from "provides at least one feature selected" and "provides a plurality of features selected" to "selects at least one feature" and "selects a plurality of features", respectively, and the claims were each amended to incorporate the limitations of the base claim, then these claims would be allowed.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Peikari whose telephone number is (703) 305-3824. The examiner is generally available between 8:00 am and 9:30 pm, EST, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim, can be reached at (703) 305-3821.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

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Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 746-7239 (Official communications)

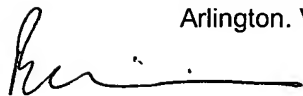
or:

(703) 746-7240 (for Informal or Draft communications)

or:

(703) 746-7238 (for After-Final communications)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA., Sixth Floor (Receptionist).



B. James Peikari
Primary Examiner
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3/22/04